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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,243	11/25/2003	Alpha Hou	MR1957-805	4348

4586 7590 06/12/2006

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ELLICOTT CITY, MD 21043

EXAMINER
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MENGISTU, AMARE

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/720,243	<b>Applicant(s)</b> HOU, ALPHA	
	<b>Examiner</b> Amare Mengistu	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Specification*

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The specification has failed to disclose applicant's claimed invention of claim 11 "***a semiconductor micro-electro-mechanical (MEMS) structure***".

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 9 -11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The recitation of claim 9 "***inputting a current via said displacement sensor to break off said sleeping mode; and starting to capture images with said sensor***" does not enable one skill in the art how to save power for an optical navigation (optical mouse) device. It is known that in order to restore the power of a mouse, the mouse will switch from normal mode to a sleep mode. Applicant's invention will not enable one skill

in the art how one will save power of the optical navigation by breaking off from sleeping mode? The purpose of having a sleep mode is to save power. Thus, Applicants specification fails to enable one of ordinary skill in the art how to save power for an optical navigation system by breaking off from a sleeping mode.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over

**Applicants Admitted Prior Art (fig.1).**

As to claim 1, **Applicants Admitted Prior Art** disclose a power-saving method for an optical navigation device comprising the steps of: using a sensor to capture a first image and a second image (fig.1 (S1, S2)); comparing said first image and said second image (fig.1 (S3)); generating a horizontal displacement of a parallel axis and a vertical displacement of a vertical axis (fig.1 (S4)); controlling the image capture frame rate of said sensor according to the variations of said horizontal displacement and said vertical displacement (see, [0002]) and outputting said horizontal displacement and said vertical

displacement in an output period (fig.1 (S5)).

**Applicants Admitted Prior Art** did not expressly detailed that the capture frame rate is that of the sensor. However, it is obvious to one skill in the art to recognize that the image capture frame rate is of said sensor since the sensor is used to capture the first and second image (fig.1 (S1, S2)).

As to claim 2, **Applicants Admitted Prior Art** discloses that the first image is the image captured by said sensor when said optical navigation device hasn't moved yet (see, fig.1 (S1)).

In regard to claim 3, **Applicants Admitted Prior Art** teaches that comparing the first and second images (fig.1 (S3)). It is obvious that the comparison is done by a digital signal processor, a central processing unit or a controller.

As to claims 4,5 and 6, **Applicants Admitted Prior Art** discloses an image capture frame rate of said sensor ([0002]). It is obvious that the image capture frame rate of the sensor will increased/decreased (maintained) depending upon the variations of said horizontal displacement and said vertical displacement are larger than an upper/lower threshold (larger than a lower threshold and smaller than an upper threshold) [0002]).

In regard to claim 7, **Applicants Admitted Prior Art** also discloses that the said

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second image is the image captured by said sensor after a predefined frame rate ([0009]).

As to claim 8, **Applicants Admitted Prior Art** that the frame rate is proportional to said output period ([0002],[0009]).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amare Mengistu whose telephone number is (571) 272-7674. The examiner can normally be reached on M-F,M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3639. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Amare Mengistu  
Primary Examiner  
Art Unit 2629

AM

June 10,2006